

# Postpartum Sterilization

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■ *Postpartum sterilization in California is characterized by an absence of legal definition, by variations in the practices within communities and by differences of opinion as to the merits of alternative procedures. In one institution there seems to be good reason to stress postpartum tubal sterilization as being a safe and effective method of dealing with a group of patients for whom subsequent pregnancies carry a high risk. In other hospitals sterilization policies will vary according to local circumstances and needs.*

POSTPARTUM TUBAL STERILIZATION is affected by a variety of conflicting medical, legal, administrative and social considerations. There are differences of opinion as to the merits and risks of alternative methods of sterilization.<sup>2,5,6,8</sup> The legality of this procedure has not been clearly defined, either on state or national levels. Within communities, there is a lack of uniform practices, and there are conflicts within and between various medical organizations and agencies. And finally, there is an ever-increasing public interest in programs for family planning and population control.

In California, there are no statutes either granting or denying the request to perform or have performed a sterilization operation outside of a state institution. In a recent opinion, the legal counsel for the California Medical Association stated that California courts would most likely hold that an operation to produce sterility, when necessary for therapeutic reasons, may lawfully be performed. On the other hand, sterilization without a therapeutic indication could constitute the crime of mayhem. It was the advice of counsel

that California physicians should not perform sterilization operations unless therapeutically indicated.

Within communities there are variations in sterilization practices. This is illustrated by an informal poll of 15 hospitals in the Los Angeles area. The majority of these hospitals have sterilization committees. Some do not. These hospital committees may or may not require formal approval of all requests for sterilization. In some hospitals, socio-economic indications for sterilization are acceptable—usually along the lines recommended by the Manual of Standards of the American College of Obstetricians and Gynecologists. Other hospitals require that a medical indication be present, and some hospital committees tend to influence methods of sterilization by their advocacy of one or another type of procedure.

It is evident that the practices of one group or in one area will be influenced by a number of factors, including social, economic, religious and professional considerations. This paper deals with only one situation as encountered in a large urban general hospital.

At the Los Angeles County General Hospital, there were 10,793 births during the fiscal year 1965-66. In the same period, 490 mothers were sterilized, either at the time of cesarean section

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**TABLE 1.—Sterilization Procedures Used in a Period of One Year**

Postpartum tubal sterilization at patient's volition	205
Postpartum tubal sterilization on medical indication	27*
Tubal sterilization at cesarean section	208
Section, hysterectomy	49
Therapeutic abortion	1
Interval tubal sterilization	0†
Total	490

\* See Table 2.

† See Text.

**TABLE 2.—Tubal Sterilization for Medical Indications**

Heart disease	7
Diabetes	8
Sickle cell disease	2
Polycystic kidney	2
Pulmonary tuberculosis	1
Systemic lupus erythematosus	1
Severe asthma	1
Hodgkins disease	1
Subarachnoid hemorrhage	1
Carcinoma thyroid gland	1
Severe hypertension	1
Previous cesarean section	1
Total	27

or in the immediate postpartum period (Table 1). The ratio of sterilization to delivery was 1:22 and the ratio of postpartum tubal sterilization to delivery was 1:47.

### Postpartum Tubal Sterilization

Postpartum tubal sterilization is divided into two groups—medically indicated and voluntary. By medically indicated is meant that the patient had a medical disease which clearly increased the risk of subsequent pregnancy (Table 2). The term "voluntary tubal sterilization" implies that socio-economic considerations are involved and that the decision is based on a combination of age and multiparity. The concept of voluntary sterilization has achieved the recognition and approval of many groups—particularly the American College of Obstetricians and Gynecologists. It is the recommendation of the college that voluntary sterilization be permitted if the woman is over 25 and has five living children, is over 30 and has four living children, or is over 35 and has three living children.<sup>3</sup>

In the Los Angeles County General Hospital, the definition of voluntary tubal sterilization is more stringent. As a prerequisite to sterilization, following delivery, the patient must have born eight children if under age 30 or six children if older. It is our opinion that patients in this group also have medical and obstetrical indications for

sterilization because to them the risk of future pregnancy will equal or exceed the risk of the sterilization procedure.

In California, increasing age is a factor in pregnancy risk. Twenty-five per cent of the maternal deaths occur in a group of patients 35 years of age or older delivering only 10 per cent of the liveborn infants.<sup>4</sup> Among the patients undergoing voluntary sterilization in this hospital, 79 per cent have a history of either a significant medical disease or complication of pregnancy. Pregnancy complications include hemorrhage sufficient to require transfusion (26 per cent), urinary tract infection (29 per cent) and toxemia (58 per cent).

During 1965, there were 16 maternal deaths at the Los Angeles County General Hospital (Table 3). It is significant that nine of the sixteen patients with a total of 65 surviving children could have qualified for voluntary sterilization under the recommendations of the American College of Obstetricians and Gynecologists. Moreover, six of these nine patients had not desired to be pregnant, as was evidenced by the fact that the cause of death was sepsis following induced abortion.

In our experience, postpartum tubal sterilization has been a safe procedure. In the three-year period ended with February 1967, there had been no mortality following 746 operations. To date, no patient has returned with pregnancy, either uterine or ectopic, because of operative failure. (Admittedly, however, pregnancy can occur years later.<sup>7</sup>) Operative morbidity has been less than 1 per cent, and even then consisting of either a superficial wound abscess or a small hematoma.

The type of operation, anesthetic and day of

**TABLE 3.—Maternal Deaths in the Year 1965 at Los Angeles County General Hospital**

Age	Parity	Cause of Death
37	8	Cerebral hemorrhage—eclampsia
37	7	Postoperative hemorrhage—tubal pregnancy
30	7	Ruptured uterus—oxytocin induction
27	7	Septic abortion—septic shock
34	6	Septic abortion—hypertensive disease
27	5	Septic abortion—pulmonary embolus
26	5	Septic abortion—tetanus
36	4	Septic abortion—septic shock
29	4	Eclampsia—aspiration of vomitus
30	4	Septic abortion—shock
37	3	Septic abortion—pulmonary embolus
19	1	Suicide—barbiturate overdose
20	1	Probable pulmonary embolus
29	1	Diabetic keto-acidosis
30	1	Acute purulent meningitis
35	1	Induced abortion—hypertensive encephalopathy

**TABLE 4.—Data on Postpartum Tubal Sterilization, 232 Cases**

<b>A. Type of Operation</b>	
Pomeroy .....	227
Irving .....	2
Fimbriectomy .....	3
Cornual Resection .....	0
Associated with repair of incisional hernia .....	4
<b>B. Anesthetic</b>	
Spinal .....	149
Epidural .....	9
Inhalation .....	52
Local .....	22
<b>C. Postpartum Day</b>	
Delivery .....	6
1 .....	67
2 .....	113
3 .....	38
4 .....	6
5 .....	2

operation in 232 cases done during the year 1965-66 are listed in Table 4. Although the Irving operation is more certain, it was seldom done. The appeal of the Pomeroy procedure would seem to be its ease and simplicity. Local anesthesia, when employed, proved adequate—even though the patient usually experienced a certain amount of discomfort.

Now that more effective contraceptives are available, the question can be asked: Is tubal sterilization necessary? At this time, neither oral contraceptives nor intrauterine devices have provided a complete answer to the problem of family planning. This is particularly true in those areas where socio-economic factors limit the availability of medical care. An examination of Tables 5 and 6 demonstrates that there is con-

**TABLE 5.—Data on Use of Intrauterine Device in the 1965-66 Period by Patients for Whom Method was Recommended**

Method continued .....	346
Method discontinued* .....	62
Lost to follow-up .....	46
Failed appointment .....	204
Total .....	658

\*Includes three patients pregnant with device in place and three patients planning another pregnancy.

**TABLE 6.—Data on Use of Oral Contraceptives in the 1965-66 Period by Patients for Whom They Were Recommended**

Method continued .....	321
Method discontinued* .....	127
Lost to follow-up .....	171
Failed appointment .....	104
Total .....	723

\*Includes three patients planning another pregnancy.

siderable interest in contraceptive methods among our patients, but also a high rate of failure—even if it is assumed that a large proportion of patients who are lost to follow-up, or who have not kept their initial appointment, are obtaining adequate contraceptive advice from other sources.

The reasons for discontinuance of oral contraceptives by the patient were side effects (62 instances), request of the patient or her husband (62), or contemplated sterilizing surgical procedure (3). Intrauterine devices were discontinued because of expulsion (24 cases), cramps (12), bleeding (4), infection (2), patient request (6), surgical procedure (3), pregnancy (3) and miscellaneous (8). In the two groups, a total of six patients discontinued contraception because of a desire to become pregnant. Not infrequently, the discontinuation of one method was not followed by the substitution of another method. The following case furnishes a dramatic illustration.

A 27-year-old Caucasian was given an oral contraceptive following the birth of her eighth child. After 12 weeks of taking the contraceptive it was discontinued because of leg pain. Thrombophlebitis could not be ruled out. Six months later the patient was admitted to this hospital in septic shock as a result of an induced abortion. Within 48 hours she was dead, despite intensive therapy.

### Sterilization at Cesarean Section

In the fiscal year 1965-66 there were 667 cesarean sections at the Los Angeles County General Hospital. Two hundred and fifty-eight of the patients were sterilized, 208 by tubal ligation, 49 by hysterectomy done in the absence of gross uterine disease, and one done on the indication of rupture of the previous cesarean section scar. This last patient is excluded from the group upon whom operation was done primarily for the purpose of sterilization.

It has been our practice not to advise sterilization with less than three children unless the patient has a serious disease or is over 40 years of age. The choice of operative procedure is influenced by the patient's age, the operative findings and the preference of the operator. While hysterectomy was more often selected for older women, the decision was not consistent (Table 7). In some cases, hysterectomy was done for very young persons, and tubal ligation was done for women approaching the menopause.

Hysterectomy has both advantages and disadvantages. The principal advantage is the removal

TABLE 7.—Data on Sterilization at Cesarean Section

	<i>Tubal Ligation</i>	<i>Hysterectomy</i>
Average age .....	30	32
Age range .....	19-45	22-42
Age 30 or more .....	50 per cent	68 per cent
Parity .....	4.6	4.7
Negro .....	50 per cent	32 per cent

of a potentially troublesome and presumably functionless organ. The major disadvantage, aside from psychological considerations,<sup>1</sup> is an increased operative risk. In our experience, both operative morbidity and mortality are significantly increased when hysterectomy is selected instead of tubal sterilization. During the past 15 years, the complications encountered in this hospital that can be attributed to this operation include uretero-vesical fistula, vesico-vaginal fistula, extensive hematoma, vault abscess, postoperative hemorrhage and an increase in post-transfusion hepatitis.

### Other Procedures

In the period covered by this report, there were no interval (late) tubal sterilizations. However, vaginal hysterectomy was selected rather than tubal sterilization for a half dozen patients because

of associated genital prolapse. The one therapeutic abortion (and hysterectomy) was also the only therapeutic abortion performed during this one-year period. The indication for abortion was disseminated lupus erythematosus, and the patient was dead four months later.

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